AS/NZS 4024.3612:2025

Australian/New Zealand Standard™

Safety of machinery

Part 3612: Conveyors — Unit handling conveyor systems (EN 619:2022, (ED. 1.0) MOD)

This national standard is the adoption of EN 619:2022 with national modifications as set out in the Appendix ZZ to take account of Australian conditions with the permission of the European Committee for Standardization — CEN, Rue de la Science 23, B — 1040 Brussels, Belgium.

AS/NZS 4024.3612:2025

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The following are represented on Committee SF-041:

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Australian Forest Products Association
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Australian Manufacturing Technology Institute
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Winery Engineering Association (Australia)
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Originated in Australia in part of AS C215—1971.
Previous edition part of AS 1755—2000.
Jointly revised in part and redesignated as AS/NZS 4024.3612:2015.
Second edition 2025.

Preface

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee SF-041, Safety of Machinery to supersede AS/NZS 4024.3612:2015, *Safety of machinery, Part 3612: Conveyors — Chain conveyors and unit handling conveyors*.

The objective of this document is to specify the requirements for machine design, transport, installation, commissioning, operation, adjustment, maintenance and cleaning to minimize the hazards listed in Annex F. This document deals with safety related technical verification during commissioning.

This document applies to mechanical handling devices as defined in Clause 3, singly or combined to form a conveyor system, and designed exclusively for moving unit loads continuously on a predefined route from the loading to the unloading points, possibly with varying speed or cyclically. In general, it also applies to conveyors which are built into machines or attached to machines if not stated otherwise in a machine specific standard.

Safety requirements and/or measures in this document apply to equipment used in all environments. However, additional risk assessments and safety measures need to be taken into account for uses in severe conditions, including the following:

(a) freezer applications;

(b) high temperatures;

(c) corrosive environments;

(d) strong magnetic fields;

(e) potentially explosive atmospheres;

(f) radioactive conditions and loads the nature of which could lead to a dangerous situation (e.g. molten metal, acids/bases, especially brittle loads, explosives);

(g) operation on ships and earthquake effects; and

(h) contact with foodstuff.

This document does not cover hazards during decommissioning. This document does not apply to conveying equipment and systems used underground or in public areas and to aircraft ground support equipment. In public areas, only baggage carousels and check-in conveyors for airports are dealt with in this document.

NOTE Aircraft ground support equipment is covered by the standards of CEN/TC 274.

This document is not applicable to continuous handling equipment and systems manufactured before the date of its publication.

This document is an adoption with national modifications, and has been reproduced from, EN 619:2022, *Continuous handling equipment and systems — Safety requirements for equipment for mechanical handling of unit loads*.

The modifications are additional requirements and are set out in Appendix ZZ, which has been added at the end of the source text.

As this document has been reproduced from an International document, a full point substitutes for a comma when referring to a decimal marker.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

The terms “normative” and “informative” are used in Standards to define the application of the appendices or annexes to which they apply. A “normative” appendix or annex is an integral part of a Standard, whereas an “informative” appendix or annex is only for information and guidance.

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European foreword

This document (EN 619:2022) has been prepared by Technical Committee CEN/TC 148 “Continuous handling equipment and systems - Safety”, the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2022, and conflicting national standards shall be withdrawn at the latest by September 2022.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 619:2002+A1:2010.

This document has been prepared under a Standardization Request given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

This document forms part of a series of five standards the titles of which are given below:

— EN 617, *Continuous handling equipment and systems — Safety and EMC requirements for the equipment for the storage of bulk materials in silos, bunkers, bins and hoppers;*

— EN 618, *Continuous handling equipment and systems — Safety and EMC requirements for equipment for mechanical handling of bulk materials except fixed belt conveyors;*

— EN 619, *Continuous handling equipment and systems — Safety requirements for equipment for mechanical handling of unit loads;*

— EN 620, *Continuous handling equipment and systems — Safety requirements for fixed belt conveyors for bulk material;*

— EN 741, *Continuous handling equipment and systems — Safety requirements for systems and their components for pneumatic handling of bulk materials.*

The Annexes C, D and E are normative, the Annexes A, B, F and ZA are informative.

Significant technical changes between this European standard and the previous edition:

1) standard adapted to CEN Guide 414:2017;

2) extension of Scope: telescopic conveyor, sorter, vertical switch conveyor, check-in conveyor, reclaim conveyor, rail guided floor track conveyors;

3) introduction of area concept;

4) preventing of access across the load entry/exit points in dependence of different areas;

5) the maximum speeds depending on the mass and on the different areas has been specified;

6) requirements for noise reduction and determination of noise test code;

7) list of required performance levels for safety related parts of control systems;

8) verification of safety requirements and/or measures has been improved;

9) figures in the annexes have been added/updated;

10) safety requirements/measures for the single types of conveyors have been described more detailed.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

This document is a type-C standard as stated in EN ISO 12100:2010.

This document is of relevance, in particular, for the following stakeholder groups representing the market players with regard to machinery safety:

— machine manufacturers (small, medium and large enterprises);

— health and safety bodies (regulators, accident prevention organizations, market surveillance, etc.).

Others can be affected by the level of machinery safety achieved with the means of the document by the above-mentioned stakeholder groups:

— machine users/employers (small, medium and large enterprises);

— machine users/employees (e.g. trade unions, organizations for people with special needs);

— service providers, e.g. for maintenance (small, medium and large enterprises);

— consumers (in case of machinery intended for use by consumers).

The above-mentioned stakeholder groups have been given the possibility to participate at the drafting process of this document.

The machinery concerned and the extent to which hazards, hazardous situations or hazardous events are covered are indicated in the Scope of this document.

When requirements of this type-C standard are different from those which are stated in type-A or type-B standards, the requirements of this type-C standard take precedence over the requirements of the other standards for machines that have been designed and built according to the requirements of this type-C standard.

List of abbreviations

ESPE	Electro-Sensitive Protective Equipment (AOPD and AOPDDR)
AOPD	Active Opotoelectronic Protective Device (e.g. light barriers)
AOPDDR	Active Optoelectronic Protective Device responsive to Diffuse Reflection (e.g. laser-scanner)
UL	Unit Load
EMC	Electro Magnetic Compatibility
PL_r	Performance Level required
VTD	Vertical Transfer Device
DCV	Destinated Coded Vehicle
TC	Transfer Car
OHC	Overhead Conveyor

1 Scope

This document deals with requirements for machine design, transport, installation, commissioning, operation, adjustment, maintenance and cleaning to minimize the hazards listed in Annex F. These hazards can arise during the operation and maintenance of continuous handling equipment and systems when carried out in accordance with the specifications given by the manufacturer or his authorized representative. This document deals with safety related technical verification during commissioning.

This document applies to mechanical handling devices as defined in Clause 3, singly or combined to form a conveyor system, and designed exclusively for moving unit loads continuously on a predefined route from the loading to the unloading points, possibly with varying speed or cyclically. In general, it also applies to conveyors which are built into machines or attached to machines if not stated otherwise in a machine specific standard.

Safety requirements and/or measures in this document apply to equipment used in all environments. However, additional risk assessments and safety measures need to be considered for uses in severe conditions, e.g.

— freezer applications,

— high temperatures,

— corrosive environments,

— strong magnetic fields,

— potentially explosive atmospheres,

— radioactive conditions and loads the nature of which could lead to a dangerous situation (e.g. molten metal, acids/bases, especially brittle loads, explosives),

— operation on ships and earthquake effects and

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This document is not applicable to continuous handling equipment and systems manufactured before the date of its publication.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 81-20:2020, *Safety rules for the construction and installation of lifts — Lifts for the transport of persons and goods — Part 20: Passenger and goods passenger lifts*

EN 341:2011, *Personal fall protection equipment — Descender devices for rescue*